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Making-up Malaria Data: A Nigerian Example

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Abstract

This study sets out to examine the processes through which data are generated on malaria in Nigeria. It focused on the Roll-Back Malaria (RBM) initiative, examining the case as it applies to Nsukka, a local community in southeast Nigeria. The study relied on written sources as well as on ethnographic and quantitative strategies for data collection. The findings reveal that, if cross-examined with facts in this locus, most national pronouncements on malaria data will be seen to be counterfactual. And because the RBM initiative is run and controlled by the same national authorities that recently proclaimed Nsukka as the best example in the implementation of the program in Nigeria, our results therefore seem to have a national significance. The importance of the results of this study for Sub-Saharan Africa is based on the declaration by the International Health establishment and national authorities that Nigeria bears a greater malaria burden than any other country in the sub-region. Hence, if any aspect of the major suppositions regarding malaria in Nigeria is altered, it has very important implications for the profile of the disease in Sub-Saharan Africa.

Key words: malaria surveillance and control, public health data, Roll-Back Malaria

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BACKGROUND

Internationally coordinated malaria control, which is said to have been first tried out in 1898, became wider-ranging with the mandate given to the WHO by the World Health Assembly in 1955 to eradicate it worldwide (The History of Malaria, 2011). In those periods, the western expansion into Africa was in full throttle; and this disease that earned her the epithet, "white man's grave," (Curtin, 1990: 63) needed to be tamed. And how this happened in diverse settings of colonial and post-colonial Africa has been investigated by a host of researchers (Curtin, 1985; Kachur, 2011; Ombongi, 2011; Schumaker, 2011). Malaria control and surveillance in colonial and postcolonial Africa have been seen to be part of the tributaries to the exceeding medicalisation that ran along with the overarching ascendancy of the bureaucratised modern state. Most African states today, much like the International Health establishment, fully subscribe to biomedicine, with its claims to objectivity, neutrality, and exactitude. Thus, resources – which mainly come in the form of counted money – from the state and the international health bodies, only come to the health authorities depending on definite data they present on specific disease burdens. This has been the case, most frequently, in malaria control.

THE DATA

Malaria is said to be one of the top 10 killer-diseases in the world. Annual estimates put the figures at between 300 million and 500 million clinical episodes and 1.5 to 2.7 million deaths worldwide, with 90 per cent in Tropical Sahara. At any rate, Nigeria is said to bear a greater malaria burden than any other country on the planet, with about 85 million clinical cases and over 300,000 deaths annually (WHO, 2011, World Bank Group, 2007). The disease is said to be a heavy burden on Nigerian families, communities, and health system, taking a big toll on the workforce and therefore on the economy. It has been described as a "classic economic disease," (Packard, 1997: 183) with annual financial loss to the country put at about 132 billion Naira (USD 906 million). This is in the forms of treatment costs, prevention, and loss of work-hours (The Federal Ministry of Health, 2010: 5).

In the Nigerian National Malaria Programme website and in some of the Roll-Back Malaria working documents (as shall be seen presently), claims are made that surveillance, monitoring, and evaluation are done to provide such data as presented above for useful policy-making. It would then seem that there was a reliable, systematised process through which such data were generated. Claims are seen to be made that data on malaria

are gathered from public and private health facilities, as well as the Patent Proprietary Medicine Vendors (PPMVs) (who are seen to be the first port of call for most Nigerians when certain medical conditions, such as malaria, set in). However, it is important to examine how all this actually happened on the ground, taking a look at it from one of the typical local levels from which these data are supposed to be generated.

THE CLAIMS

There are noticeable, almost grandstanding, attempts on the part of concerned authorities in Nigeria to show:

i. that malaria is seriously endemic across its districts and localities, as is largely said of Sub-Saharan Africa as a whole;

ii. that they have a serious national intervention programme – supported by the International Health establishment – which they are judiciously implementing;

iii. that there has been a progressive reduction in the incidence of malaria over the past decade; and to

iv. link this reduction with the control programme undertaken within this period.

THE PROJECT

Obviously, health research or control policies are always hinged on certain assumptions that justify the efforts and resources thrown into them. With the widely accepted traditional model of health (which links development with good health), and with the data as presented above, any argument against the justifiability of malaria control activities will hardly be entertained. However, in the Nigerian case, the process through which such data on malaria have been generated in the first place has not received any serious attention.

Ordinarily, it would not be expected that the implementers of disease control anywhere today would own up that the policies and strategies they dispense are based on data arbitrarily assigned. And this seems to owe a lot to the fact that the quantum of interventions from donor agencies and governments against any disease depends on data on it, which are held to be somewhat factual. This is the case with malaria in Nigeria. However, considering the nature of health-seeking behaviors and destinations in the country, with many of these directed away from the domain monitored and supervised by the state, it will be important to examine the processes of monitoring and surveillance that produce data on malaria in the country, as well as the claims made by health authorities on their efforts at controlling

it. These are what this study set out to investigate, focusing on the Roll-Back Malaria initiative and using Nsukka LGA in Enugu state, southeast Nigeria, as the locus.

STUDY SETTING

Nsukka is one of the communities that bear peculiar, although mutually intelligible, Igbo dialects lying at the border between northern and southern regions of Nigeria. It is about 70 kilometers north of Enugu, the administrative headquarters of Enugu state. Nsukka, being a border community, began to see the British plenipotentiaries traverse northward and southward of the area that is now Nigeria from mid-nineteenth centuries. However, the British properly made its first administrative contact with the area from Awka (now in Anambra state) in 1906 and later from Okpoga (the Okwoga of colonial records, in present Benue state) in 1908 (Afigbo, 1981: 70). It remained part of Okpoga administrative district until the colonial act of 1918 excised all Igbo-speaking areas from that district (Asogwa, 2006: 83). Those are the areas today known as Nsukka senatorial zone. However, it is on part of that area which is today administered as Nsukka Local Government Area that this study focuses. The LGA has 20 political divisions known as wards with a 2011 projected population of 348,337.

Since the colonial days, and even after Nigeria's flag independence, Nsukka has been administered under the western-style, multi-ethnic state system. It is under such overarching system that social problems, including issues of public health, are now handled. The choice of Nsukka as the locus owes a lot to the fact that the LGA has been adjudged by the authorities to be one of the best examples in the implementation of the RBM initiative in Nigeria. In 2010, the LGA was actually pronounced the best in the country. In the same year, seven laurels were presented to honour LGAs in Enugu state for commendable performances in rolling back malaria. Nsukka won three, leaving four for the rest of the sixteen LGAs. Thus, this area was chosen as the locus for this study because it gets very close to what the authorities consider the ideal in the RBM initiative.

Government-driven attempts to deal with malaria in Nsukka began in the colonial days. But for reasons of time and resources, it was considered better to concentrate on a thorough study focusing on a shorter period than a shoddy one that would claim to cover a broader time span. Another advantage of such a choice of the current RBM initiative is the possibility it provides for crosschecking official records with first-hand information from live community members, and not just by the reading of other records of past events.

METHODS

For data collection, this study relied on ethnographic and quantitative methods as well as written sources. In-depth Interview (IDI) sessions were held with the Malaria Focal Person (MFP), the Malaria Health Worker (MHW) in the Nsukka central health centre (to which health reports from all the ward subsidiaries are submitted), and the Malaria Programme Coordinator (MPC) for Enugu, the state within which our locus is found. Relevant medical records, including archival materials were sought, some of which were obtained. To crosscheck the data furnished by these, which I considered official data, I had to enter the community to interact with the alleged participants in, and recipients of, the control activities; FGD, IDI and semi-structured interview were the techniques employed.

For ease of entry into the community, I managed to get the MFP for Nsukka LGA to enroll me as one of the Role-Model Caregivers (RMCs) in the community. The need to have malaria control practitioners close to community members in the hinterlands led to the establishment of the RMCs. They are to move in, talking to community members about malaria, and dispensing care and control items as necessary. Importantly, it was fortuitous for me to have begun fieldwork at a period when a new set of prospective RMCs were to be trained. In addition to other meetings, symposia, and workshops for malaria control which I attended, I successfully went through the training that conferred on me the status of an RMC.

The nature of the RMCs' job makes it the case that, to be more effective, each is to work in the wards where they are domicile. However, with the MFP's permission, I randomly selected and visited five wards. They comprised Ihe, Obimo, Ob'kpa, Eha-Alumona, and Ero-Ulo wards. In my various encounters in the different wards visited, I would always introduce myself as an RMC (which was a fact). I suspect that the hitches encountered in getting community members to participate in the study was minimised by the RMC status with which I approached them.

In each ward, forty households – selected through a systematic random sampling technique – were visited. Households were visited on intervals of four. A rejection was made up for by a visit to the immediate next or previous homestead. However, in moving ahead, the fact that there was a rejection was ignored. This means that the next visit was to the fourth homestead from that in which the rejection happened. The head of each selected household was engaged in a semi-structured interview that lasted for twenty minutes on the average. The focus groups were mixtures of women and men since the matter for discussion was non-sensitive, at least along gender lines. Criteria for selection of FGD participants were age

(thirty years and above) and any forms of experience of malaria control activities: community members who had ever received the ITN, or who had ever been visited by malaria controllers, or been diagnosed with malaria, or attended any RBM programme, or ever heard anything about malaria control over the past fourteen years (i.e. since the inauguration of the RBM there) qualified to participate in the FGDs. These categories of respondents were identified during the semi-structured interview sessions. Some questions that respondents had to reply to in the semi-structured interview included whether they thought malaria was a serious problem among them, where they always took cases suspected to be malaria, whether they had received and were using any malaria control items over the same period. The FGD sessions were also formed around these and related issues. In addition, IDI sessions were held with the president and secretary of the Patent Medicine Dealers' Association (PMDA) in the area, purposively selected. Multi-stage sampling technique was used to select fifty non-executive members that responded to the semi-structured interview. The decision to hear from the patent medicine vendors was made sequel to a claim in the Nigeria malaria control website – corroborated by the Malaria Focal Person (MFP) for Nsukka LGA and the Malaria Programme Coordinator (MPC) for Enugu state – that data on incidence of malaria were also being generated from them as part of the Roll-Back Malaria initiative. However, only those who had been in the trade here since at least 2007 qualified to be interviewed. This was because it was in 2008 that their involvement in the Roll-Back Malaria initiative was said to have begun. So, care was taken to foreclose any chances of interviewing those who would have had no chances of being part of the scheme at the time.

Systematic analysis was used to analyse records and fieldwork data. Notes from different sources mentioned above were juxtaposed to bring out the convergences, differences as well as any absences in the data they furnished.

ETHICS

Ethical approval for the study was obtained from the Nsukka Local Government Health Commission. Upon contact with respondents to the interview, each was provided with a document (written in English because Nsukka does not yet have a standard orthography) containing information on the study as well as seeking their consent. Interviews only commenced after respondents had signed the consent form. The form was read and explained to non-literate respondents; and they were asked to make thumbprints in the presence of literate close relatives. In the case of the

FGDs, it was just one letter on which all participants had to sign indicating willingness to participate.

RESULTS AND ANALYSIS

PROFILING THE DISEASE

'Raise it! Spend it! Prove it!'

This is a Roll-Back Malaria slogan popular among the stakeholders in Nigeria. What to 'raise' are funds from donor agencies and governments with which to prosecute the malaria control project. The way researchers, care-givers and other stakeholders who receive malaria-control resources have done this is to present scary data on the malaria burden. The fearsomeness of endemic malaria in most parts of Nigeria including Nsukka has been made to appear so real and taken-for-granted that the focus of this study from the outset was on how the strategies set out to roll it back were actually being enacted on the ground. However, in response to the question as to how big a problem they thought malaria was in Nsukka, one of my respondents (who, I later found, was an academic staffer in the University of Nigeria) made a comment that turned out to be a depiction of how unanticipated some of the qualitative researcher's findings can be. According to him:

> "It is not in doubt that malaria is around here, but it is not as serious as you people make it appear. I hope you know that the exception is to find an African, especially down south of the Sahara, that does not have the malaria trait… It will be difficult to survive here without it in your blood... In fact, you still hear of sickle cell anaemia because it is part of the consequences of what natural selection is doing to protect people here from dying of the disease..."

In that breadth, many of the participants wondered whether that explained the experience where many persons whom they knew to have been referred to the laboratory, no matter the symptoms presented, were always diagnosed with what they said was always called "malaria parasite". Our respondent quoted above corroborated Philip Curtin in 'The end of the white man's grave', although he might not have particularly read Curtin's following lines:

> "For Europeans, tropical Africa was more dangerous than any other region of the tropical world, and the main cause of death there was malaria… By the early nineteenth century, Europeans believed firmly that coastal West Africa was the "white man's grave." … In fact, Europeans did die in

> frightening numbers, but the cause was not the climate; it was the disease environment. The European weakness was not racial but a lack of immunity to yellow fever and malaria in particular, an immunity that many Africans acquired in childhood" (Curtin, 1990: 63).

Indeed, a Roll-Back malaria working document lists "people not living in malaria endemic areas", in addition to pregnant women and children, as those who are very vulnerable to the disease (Federal Ministry of Health, nd: 12).

The context of Curtin's report was a point in history when western expansion was in full throttle. This disease that got Africa the soubriquet, "white man's grave," needed to be subdued, without which economic exploitation of the continent (which has been argued to be the real rationale behind efforts to control the disease) could prove impossible (Ombongi, 2011: 53-5; cf. Tilley, 2004: 22). Colonial and post-colonial malaria surveillance and control in Africa have been argued to be part of the tributaries to the wide-ranging medicalisation that was an important part in the growing pre-eminence of the bureaucratised modern state (Kachur, 2011: 198; Schumaker, 2011: 403-4).

To face our immediate locus, there are sources that suggest that pre-contact Nsukka had malaria, but that the disease seemed to have begun to receive attention as a serious public health issue from the times of contact with the British. One of my informants who said he had witnessed demises of two Irish priests in the 1940s suggested that local people were shocked to learn that there were types of people malaria could so easily kill. The existence of colonial records of malaria control activities in Nsukka are then not out of place. It is an indication that the disease had been taken seriously by colonial administrators perhaps owing to their susceptibility to it. Importantly, although in a slightly different way, this seems to have rubbed off on present public health administrators, part of the whole lot of Nigerian civil servants who ordinarily refer to their job as ọ̀lụ oyibo (roughly trans. 'White man's job'). It is significant, in this light, that even in the present, although almost all the 200 household heads interviewed for the study noted that malaria was common among them, yet the majority (95.5 per cent) did not think it was such a serious problem that deserved emergency-like state intervention as the health authorities made it out to be. There is something that both the colonial and the post-colonial malaria control efforts seem to share in terms of the political economy of public health: the former could be seen to be cracking down on malaria for the sake of a more unperturbed imperial penetration; the latter would appear to be playing up the threat of

malaria perhaps to sustain the flow of intervention funds (cf. Tilley, 2004; Ombongi, 2011).

In response to the question regarding how serious a problem malaria was in Nsukka, a malaria health worker in the central health centre there said,

> "Malaria is the biggest health problem in this community. There are so many ailments we treat in our work as community primary healthcare givers, but malaria is the biggest of them… Each month's statistics always show that malaria is the biggest health problem that people bring to the health facility every month".

The Malaria Focal Person for the LGA agrees with him, stating the case exactly in the line of claims made about the disease in the official national and international documents:

> "Malaria is the major sickness that happens to people in Nigeria and Sub-Saharan Africa. 70 per cent of hospital attendance results from malaria. At least 50 per cent of Nigerians experience at least one episode of malaria annually. Since I came into malaria control, I notice that government and donor agencies have been doing a lot to reduce the scourge".

What the FGD participants said above about many people being diagnosed with "malaria parasite" corroborates these health workers' responses, although in a different light: while the workers presented it as a grave health problem, the community members saw it as something latent in their body, to be only always uncovered through diagnosis.

The Nigerian national policy document published by the federal ministry of health in 2010 also estimated that 50 per cent of the Nigerian population had at least one episode of malaria each year (Federal Ministry of Health, 2009: 24). This is far below where the Enugu state MPC puts it. According to him, "every Nigerian experiences at least one clinical episode of malaria every year".

Meanwhile, monthly summary of malaria services (2009-2011) showed that only 3.8 per cent of the population of Nsukka were diagnosed with malaria in the government health facilities in 2009, 4.2 per cent in 2010, and 4.8 per cent in 2011. Several confounding variables between this and the 50 per cent national estimation can be suggested. A point was, however, made in this light by the malaria focal person. Reacting to a

question as to whether the number of malaria cases in the community bore out the national estimation in any ways, he said,

> "I don't know the source of your estimation.… I am the malaria focal person for Nsukka Local Government Area and we cover the public sector. That comprises only government-run facilities. These are very small compared with the private sector. And you know that majority of the people go to the private sector. Some even go to quacks… Because of this, it is very difficult for us to properly reconcile the number of people who suffer malaria in Nsukka Local Government Area with the population of the area. The data we have are those of people who come to the government health centres in Nsukka. And that is the problem. I don't know whether the policy document you referred to captured both the public and private sectors. I don't know" (interview with MFP for Nsukka).

In any case, to ascertain whether a more comprehensive data gathering was happening across (any of) the other sixteen LGAs than just Nsukka; in other words, whether or not one was looking at a case where just one LGA out of the seventeen in the Enugu state was not in line with a wider-ranging data generation system on malaria (although this was unlikely given that Nsukka was recently adjudged one of the best in implementation of malaria control), I went on to inquire from the State Malaria Coordinator about how the actual spread of malaria was ascertained in the state. According to him,

> "If you come to Enugu state and Nigeria in general, there are what we call the DMSOs which means Disease Monitoring and Surveillance Officers. We are working towards integrating the duties of the DMSOs and the Malaria Focal Persons in the LGAs. The DMSOs cover both the private and public sectors".

However, his further comments clearly showed that such a plan, even if it was doable in Nigeria as shall be pondered presently, was still in the future:

> "We are trying to have a common forum where we will compare notes with them (i.e. the DMSOs). We will consider a possibility of merging what they collect from the private sector with what we collect from the public so as to determine the number of malaria cases in a given LGA or community. As I speak with you, there is a technical committee that has been set up across the federation. It is working out an annual operational working plan for a harmoni sation of data that will take off in mid-September this year. The committee has a mandate to harmoni se data on malaria prevalence based on information on attendance from all fronts, which include both public and private health facilities including faith-based healing places and the PPMVs".

In the light of this, there was a claim in the Nigerian Malaria Programme website (as accessed on 6 June 2012) that the Society for Family Health was already garnering data from the PPMVs on malaria incidence across the states in Nigeria since 2008. This was informed, the authorities reasoned, by the fact that the PPMVs were the first port of call for most Nigerians when such ailments as malaria set in.

However, it was fascinating interacting with patent proprietary medicine vendors in Nsukka on this. One of the executive members of their association made a notable disclosure about how the alleged data gathering went on:

> "Some people who said they were roll-back malaria people came sometime in 2008. They gave us some drugs for which we paid N40 per card, even though I suspect that the drug was meant to be given out free of charge to Nigerians. They told us it was provided by the government to control malaria. They also gave us some papers to record the names and particulars of those who bought it. We did as they instructed, but we never saw them again. They never came back to check whether what they gave us had finished, or even to collect the records we kept for them" (interview with president of the PMDA, Nsukka, 19 July 2012).

To show that this could have hardly been relied upon even if it was faithfully followed through, another executive member said, reacting to the question as to whether all their members got the drug, "No! Few persons got it. I only did perhaps because I was part of the executive members at the time. Many did not get it". That only two (that is 4 per cent) out of the fifty non-executive members interviewed agreed to have received any such Roll-Back Malaria drug corroborated what their president said above. In fact, the question as to whether anybody had ever come to ask them to keep records of malaria cases they received sounded strange to most of them. What one of the two who admitted awareness of the scheme said is remarkable:

> "do you even know that when I got to Onitsha market, I saw that same drug. I bought it at 150 naira in Onitsha and sold at 200 naira when I got back. You live with such things as a Nigerian".

ROLLING IT BACK?

In the 'prove it!' aspect of the Roll-Back Malaria slogan, the demand is to show that the funds received were effectively utilised for malaria control. And to justify more receipts, the onus is on the dispensers of the control

programme to prove that it was effective. This would be done by presenting data to show that the malaria burden was diminishing, and to tie the reduction to their control activities. In this light, this is what the Malaria Focal Person said regarding the effectiveness of the RBM initiative in Nsukka:

In 1997 when I got into malaria control, we used to have about 3,000 cases of malaria monthly in the public sector which we manage. But because of these interventions, the thing has reduced. In the last month, the month of April (2012), the report which I submitted to the Federal Ministry of Health showed that in all the health facilities we are covering in Nsukka LGA, only 1,560 or so were reported. That showed that the thing has reduced by more than 50 per cent.

Furthermore, in one session with the RMCs, it struck me how they were enjoined to ensure that they always exhausted the therapies they had to dispense since the records were important for future receipts of more therapies as well as other malaria control trappings. So, a thought about the possibility of some confounding variables entering such records that indicated a reduction within the periods mentioned would then not be out of place. It would, for example, not be incongruous to assume that the malaria health workers, for fear of losing their jobs should the programme be adjudged ineffectual, would make efforts to create impressive records.

In the previous design of this study, I had planned to meet with community members in the hinterlands to interact with them for purposes of uncovering any challenges the RBM strategies faced among them, and to examine the factors responsible for such challenges. However, at this point, my intention for moving into the hinterlands had changed into something different: to crosscheck official claims with firsthand information.

Dispensing and Uptake: The RBM Instruments on the Ground

As stated above, there are claims by malaria control practitioners that there has been a progressive reduction in the incidence of malaria over the past decade owing to the RBM initiative. And this invariably implies that there is appreciable uptake of the programme instruments by target groups across localities. However, taking up issues specifically, this does not appear to be the case on the ground, at least in our area of study. One of the very important preventive measures in the RBM initiative is the Insecticide-Treated bed-net (ITN). Inquiries revealed that an RBM team had gone round in 2011 to distribute and to encourage members of this area to use the net. But, what stood out clearly was that only a very small number were using it. Some protest rumours that had, now and then, risen here had a big hand in many of the respondents' not using it. In the 2000s, the rumour was that, if

inhaled, the substance with which the net was treated would result in a lethal disease. In the 2011, with the campaign for use of the net in full swing, another rumour had also arisen to the effect that anyone who slept under it would experience reduced libido.

Rumours have been said to be part of a trans-colonial movement that expressed local concerns about received systems (White, 2000: 59). They could be collective representations of fears and anxieties over issues of vital importance to a community (Samper, 2002: 1-2). To Geissler and Pool (2006: 978), local communities do not necessarily believe the rumours they spread, in the sense that it motivates their actions. The converse was borne out in this study, in any case, with participants largely attributing their non-use of the net to these 'rumours'. A participant in one of the FGDs said,

> "They say there is something in the net which harms people and reduces their fertility. I heard that the potency of that thing is reduced when it comes under the heat of the sun. So, some people who use it around here spread it in the sun before using it. Others do not even risk sleeping under it at all".

There was also another voice of protest that an individual sleeping under the net presented the scene of a catafalque.

It is fascinating to hear what many said when asked why they went ahead to collect the net anyway. According to a middle-aged man, "Where will they be taken if we reject them? It is government's provision to which we all are entitled". Another had interjected to the effect that the distributors of the nets would sell them elsewhere and make money for themselves if the community members did not collect them (FGD with household heads, Ero-Ulo ward, 18 June 2012). When asked what they then used the nets for, many did not sound certain. However, a middle aged man in Ob'kpa ward had observed that the inscription on the ITN distribution voucher, which he showed me, indicated that the net he got was actually meant for Kano state (northwestern Nigeria); on account of this, he wondered whether it was only in his locality that there were misgivings about use of the net (interview with a household head, Ob'kpa ward, 12 June 2012). Discussions with members generally showed that many among those who used the net did so not for fear of malaria but to keep off mosquitoes in order to get some sleep. In the end, although 91 per cent out of the 200 households visited agreed to be in possession of the net, only 4.5 per cent admitted to its consistent use.

I had also sought to determine whether community members were falling back on other RBM instruments such as therapies and indoor

residual spraying. Only four household heads (2 per cent) indicated they had ever used sprays (which were, after all, not furnished through the RBM but privately procured). Inquiries were also made regarding ways malaria was handled, including use of therapies. Only 7.5 per cent of heads of selected households indicated they had usually taken cases suspected to be malaria to a health facility over the past fourteen years (i.e. when the RBM took off in the LGA). However, while 3 per cent of this 7.5 per cent was to the community health centre, the rest was to private clinics. 66 per cent said they had usually gone to patent medicine vendors, 4 per cent said they had used prayer, and 22.5 per cent indicated they normally used herbal remedies over the same period. According to a middle-aged woman, "Many go to the chemists (the common term here for the PPMVs). Those who are rich go to the hospitals. I myself prefer to go to the [government] health centre directly" (interview with a household head, Ihe ward, 15 June 2012). In the IDI with him, the president of PMDA had also said: "Many take dogon yaro (Azadiracta indica); others go to Enugu-Ezike" (literally a neighbouring community famed for prowess in the use of herbs, but now a metaphor for traditional healing places).

SUMMARY AND CONCLUSIONS

Public health data are often backed up by the ever-present claim that they are products of systematic procedures that are adjudged to be objective and neutral. However, public health data, avers Nancy Krieger, are hardly a collection of empirical facts (Krieger, 1992: 413). It has been noted that the form and content of public health data always reflect decisions made by individuals and institutions influenced by peculiar considerations (Navarro, 1990: 1239). Given that volume of intervention resources provided by donor bodies is always tied to the perceived seriousness of the health problem in question, it becomes no wonder that concerns regarding the seriousness of malaria are noticed to be more on the part of the dispensers of the control project than on the alleged victims of the epidemic.

Under the sub-heading, 'monitoring and evaluation', it is stated in the Nigerian National Malaria Control website (as at 1 September 2012) that:

> "At each level of data collection, information is used for decision making in Policy formulation/review, advocating for resources, planning and reprogramming. Information is also shared with the higher levels with a feedback mechanism that goes down to the lowest level…"

However, the findings of this study reveal that if cross-examined with facts on the ground, lots of the national data on malaria in Nigeria will be

seen to be counterfactual. For example, just an average of 4.2 per cent was recorded to have reported with malaria in the government health facilities over the past three years in our locus (that is as far as available records go). Out of 200 household heads who participated in the study, only 3 per cent said they had usually treated cases suspected to be malaria in government health facilities over the past fourteen years. Sixty-six per cent and 4.5 per cent respectively indicated to have usually gone to patent medicine vendors and private clinics; 22.5 per cent and 4 per cent indicated to have usually used herbal remedies and prayer respectively. Nevertheless, the government health facilities, which were found to be the least popular with the people, were the only sources of data that actually got to the National Malaria Programme Coordinator in Abuja. Although some respondents and some of the documents consulted made claims that the other more popular health-seeking destinations for the people also generated malaria data for the health authorities, inquiries in the locus of this study (adjudged as one of the best examples of the control programme in the country) to ascertain whether any of those were being factored in revealed that they were not. And yet the Malaria Focal Person for the locality unquestionably declared that malaria was making about 50 per cent of Nigerians sick each year, even when nothing close to that could be established in his own area. An interview session with the Malaria Programme Coordinator for Enugu state also revealed that the case of absence of any reliable data gathering was similar across not only the state but Nigeria as a whole. At best, such a plan was said to still be in the future.

Besides, further inquiries were made to find out whether surveys of any sort were leaned on by the health authorities in the figure-claims made by them. But no other sources than records from the government health facilities, which have been shown to be grossly non-representative, were found to have been resorted to. Our findings then suggest that numerical estimations made about malaria by the authorities have resulted from nothing but an arbitrary assignment of numbers. And it is based on such unsupported estimations that about 85 million Nigerians are said to suffer malaria yearly, with an annual casualty figure of over 300,000; it is based on such conjectural figures that the USD906 million said to be lost to Nigeria annually due to malaria were based. Importantly, the fact that it is on such unfounded inferences that policies and plans for malaria control in Nigeria are based puts a huge question mark on all the policy claims, intentions and actions of the authorities concerned.

It has been noted that concerns regarding the seriousness of malaria are noticed to be more on the part of the dispensers of the control project than on the community members who are the alleged victims of the disease. At any rate, it does not necessarily follow that how big a problem malaria is will depend on respondents' opinions; but that is an issue for another day. What is important to note for the purpose of the present study is that the opinion of community members did not predispose them to take to the programme instruments of the RBM initiative to the extent that any alleged reductions in prevalence of the disease would be attributable to the initiative.

This study, it must be mentioned, is not out to make malaria a non-issue. But it is clear that the seriousness to control it – as well as the claims that it was coming under control – could only be felt on the part of health authorities. Of course, these are as far as our study area is concerned. But because the RBM process is run and controlled by the same national authorities that have recently pronounced Nsukka as the best example in RBM initiative in Nigeria, our results therefore seem to have a national significance. And the importance of the results of this study for Sub-Saharan Africa is based upon the point that Nigeria has been said to bear a greater malaria burden than any other country in the sub-region. Hence, if any aspect of the major suppositions regarding malaria in Nigeria is altered, it has very important implications for the profile of the disease in the sub-region.

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